

WE CLAIM:

1. A method of recording a digital signal onto a medium in an analog format, comprising the steps of
 - a. digitally modulating the digital signal with at least one carrier to generate a digitally modulated digital signal;
 - b. inserting the digitally modulated digital signal into an active part of scan lines of a digital composite video signal;
 - c. converting the digital composite video signal to an analog composite video signal; and
 - d. storing the analog composite video signal on a storage medium.
2. The method of claim 1 wherein the storage medium is a video tape recorder.
3. The method of claim 2 including, before step (a), the step of encoding the digital signal.
4. The method of claim 2 wherein the digital signal is modulated in step (a) using phase-shift keying, quadrature amplitude modulation, orthogonal frequency division multiplexing or wavelet frequency division multiplexing.
5. The method of claim 2 further comprising a method of reproducing the digital signal, comprising the steps of:
 - e. reading the analog composite video signal from the medium;
 - f. converting the analog composite video signal to a digital composite video signal;
 - g. extracting the digitally modulated digital signal from the active part of scan lines of the digital composite video signal; and

h. demodulating the digitally modulated digital signal to provide the digital signal.

6. The method of claim 5 further comprising the step of using a colour burst portion of the digital composite video signal as a pilot signal to recover a sampling clock of the digital signal.

7. The method of claim 6 including, after step (h), the step of decoding the digital signal.

8. The method of claim 7 wherein the digital signal is demodulated in step (h) using phase-shift keying, quadrature amplitude modulation, orthogonal frequency division multiplexing or wavelet frequency division multiplexing.

9. A method of reproducing a digital signal stored in an analog format on a medium, the digital signal being processed prior to storage by digitally modulating the digital signal with at least one carrier to generate a digitally modulated digital signal; inserting the digitally modulated digital signal into an active part of scan lines of a digital composite video signal; converting the digital composite video signal to an analog composite video signal; and storing the analog composite video signal on a storage medium; comprising the steps of:

a. reading the analog composite video signal from the medium;

b. converting the analog composite video signal to a digital composite video signal;

c. extracting the digitally modulated digital signal from the active part of scan lines of the digital composite video signal; and

d. demodulating the digitally modulated digital signal to provide the digital signal.

10. The method of claim 9 comprising the step of using a colour burst portion of the digital composite video signal as a pilot signal to recover a sampling clock of the digital signal.

11. The method of claim 10 wherein prior to processing the digital signal for storage the digital signal was encoded, including, after step (d), the step of

e. decoding the digital signal.

12. The method of claim 11 wherein the digital signal is demodulated in step (d) using phase-shift keying, quadrature amplitude modulation, orthogonal frequency division multiplexing or wavelet frequency division multiplexing.

13. A device for storing a digital signal in an analog format on a medium and reproducing a digital signal from the stored analog signal, comprising

a modulator for storing a digital signal in an analog format, comprising

a digital carrier modulator for digitally modulating the digital signal with at least one carrier to generate a digitally modulated digital signal;

a digital active line inserter for inserting the digitally modulated digital signal into an active part of scan lines of a digital composite video signal; and

a digital-to-analog converter for converting the digital composite video signal to an analog composite video signal for storage on the medium; and

a demodulator comprising:

an analog-to-digital converter for converting the analog composite video signal to a digital composite video signal;

an active line detector for extracting digital data from the active part of scan lines of the digital composite video signal;

a digital carrier demodulator for demodulating the extracted digital data; and

a genlock device for regenerating the at least one carrier and synchronizing the regenerated carrier to the original carrier with which the digital signal was digitally modulated, wherein the genlock device uses a colour burst component of the digital composite video signal as a pilot signal.

14. The device of claim 13 wherein the modulator further comprises an encoder for encoding the digital signal prior to modulation and the demodulator further comprises a decoder for decoding the digital signal after demodulation.

15. The device of claim 14 wherein the storage medium is videotape.

16. The device of claim 15 further comprising a video tape recorder.

17. The device of claim 14 wherein the digital signal is modulated and demodulated using phase-shift keying, quadrature amplitude modulation, orthogonal frequency division multiplexing or wavelet frequency division multiplexing.

18. The device of claim 14 wherein the demodulator further comprises analog automatic gain control, for restoring nominal values of the analog composite video signal prior to conversion of the analog composite video signal to a digital composite video signal.

19. The device of claim 18 wherein the demodulator further comprises digital automatic gain control, for restoring nominal values of the digital composite video signal after conversion of the analog composite video signal to a digital composite video signal.

20. A digital signal processing device comprising the device of claim 14.